

# ABSTRACT OF THE DISCLOSURE

A method for the deposition of metals in bacterial cellulose and for the employment of the metallized bacterial cellulose in the construction of fuel cells and other electronic devices is disclosed. The method for impregnating bacterial cellulose with a metal comprises placing a bacterial cellulose matrix in a solution of a metal salt such that the metal salt is reduced to metallic form and the metal precipitates in or on the matrix. The method for the construction of a fuel cell comprises placing a hydrated bacterial cellulose support structure in a solution of a metal salt such that the metal precipitates in or on the support structure, inserting contact wires into two pieces of the metal impregnated support structure, placing the two pieces of metal impregnated support structure on opposite sides of a layer of hydrated bacterial cellulose, and dehydrating the three layer structure to create a fuel cell.

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